
ADA - Mn/DOT's Experience

January 20, 2011



“We’re just building a road, we’re not building a church.”



Applicable State and Federal Laws

- Minnesota Human Rights Act
- Architectural Barriers Acts of 1968
- Section 504 of the Rehabilitation Act of 1973
- Americans with Disabilities Act of 1990 (ADA) - 5 Titles



Transition Plan

- Required for public entities with more than 50 employees. 28 C.F.R. 35.105(c).
- Must allow input by disabled community
- **Identify existing facilities**, programs and services that limit access for persons with disabilities.
- **Describe methods** to be used to make those facilities/programs/services accessible.
- **Specify schedule** for making non-compliant facilities/programs/services accessible by prioritizing needs of persons with disabilities.
- Identify official responsible for seeing that plan is implemented [ADA Coordinator].



The Cost of Noncompliance

- Can be significant fiscally and in terms of public trust
- **Barden v. Sacramento (2004):**
 - Court ruled that public entities must address accessibility barriers to and along sidewalks
 - Settlement requires city to spend **20% of its entire transportation budget** to make the public right-of-way accessible ... **for 30 years**
- Penn DOT will reconstruct all curb cuts (117K) at a cost of \$882 million over the next ten years
- City of Chicago was forced to spend \$140 Million over 5 years for ADA Improvements



Pedestrian Facilities Inventory

- This year Mn/DOT inventoried nearly all pedestrian ramps, signals, and crosswalks
 - Roughly 50% are non compliant based solely on running slope and cross slope
- Next year Mn/DOT will be assessing sidewalks
- Inventory will:
 - Determine magnitude of ADA needs \$\$\$\$
 - Help prioritize schedule of upgrades
 - Assist in future Scoping of Projects



Scoping

- Early Discussions with Local Agencies
 - Agreements
 - Future Projects/Comprehensive Pedestrian Plans
- Broaden Project Scope to achieve desired results
 - Focus has been on curb ramps (tech memo)
 - Sidewalks, Driveways, Vertical Discontinuities, Cross Slopes, Condition, Signals
- List Secondary work types in PPMS even if a minimal part of the project
 - Sidewalk, Curb and Gutter, Ped/Bike Improvement, Ped/Bike Trail, Ped/Bike Bridge, Pedestrian Ramps, Signals



Tech Memos

- Adoption of Public Right Of Way Accessibility Guidelines (PROWAG)
- ADA requires curb ramp upgrades when altering pavement structure in the pedestrian crossing
- All new signals/signal rebuilds include installation of Accessible Pedestrian Signals (APS)



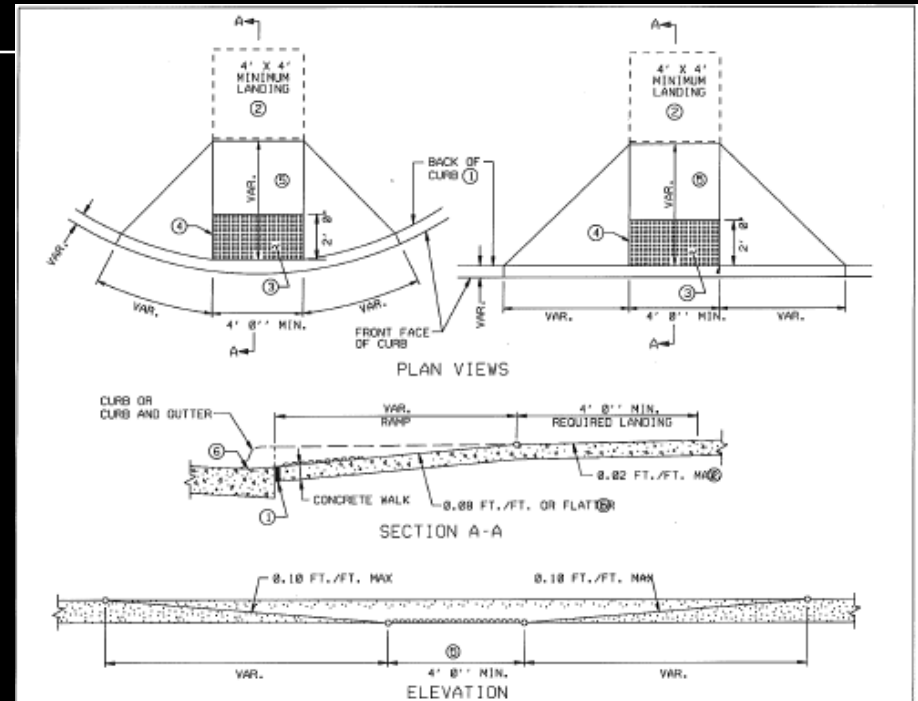
Last season's accomplishments

- Dedicated three engineers to statewide ADA Program
- Curb Ramp Guidelines
 - <http://www.dot.state.mn.us/ada/documents/curbramp.pdf>
- Performance based Special Provisions
- Dedicated ADA funding - \$2.5M/year
- Completed Transition Plan
 - <http://www.dot.state.mn.us/ada/documents/transitionfinal.docx>
- Revision of Standard Plate 7036 , 7038 and 7035



Standard Plate 7036G

- Issued in March 2011
- 4' x 4' minimum landing with maximum 2.0% cross slope in all directions is **REQUIRED** – not desirable
- Ramp lengths dependant on grades, not dimensions
- Diagonal orientation **STRONGLY** discouraged



NOTES:

TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA), ALL STATE AGENCIES ARE REQUIRED TO UTILIZE THIS STANDARD PLATE. MODIFICATIONS ARE ALLOWED PROVIDED THEY MEET PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). LOCAL AGENCIES ARE REQUIRED TO ADOPT SIMILAR DESIGNS.

THE CURB AND CURB TRANSITION ON THE RAMP WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER. THE RAMP AREA INCLUDING THE RAMP, FLARES, AND LANDING WILL BE PAID FOR AS CONCRETE WALK INCLUDING THE AREA UNDER THE DETECTABLE WARNING SURFACE. THE DETECTABLE WARNING SURFACE WILL BE PAID FOR AS TRUNCATED CONES BY THE SQUARE FOOT.

SHARED-USE PATHS SHALL HAVE DETECTABLE WARNINGS ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD. DETECTABLE WARNINGS ARE NOT TO BE USED ON SIDEWALKS OR PATHS WHEN CROSSING ALLEYS OR RESIDENTIAL DRIVEWAYS. DETECTABLE WARNINGS SHOULD BE USED WHERE PEDESTRIAN ACCESS ROUTES CROSS COMMERCIAL DRIVEWAYS THAT ARE PROVIDED WITH TRAFFIC CONTROL DEVICES OR OTHERWISE PERMITTED TO OPERATE LIKE A PUBLIC ROADWAY.

SLOPES ARE DEFINED AS ABSOLUTE ELEVATION DIFFERENCE PER LENGTH OF RUN. (AS OPPOSED TO A RELATIVE SLOPE WITH RESPECT TO A CURB LINE OR CURB HEIGHT.)

NO SIGNAL POLES, SIGN POSTS, CABINETS, OR OTHER OBSTRUCTIONS ARE ALLOWED IN THE RAMP OR PATH OF TRAVEL.

① 1/2-INCH EXPANSION JOINT. 1/2-INCH PREFORMED JOINT FILLER MATERIAL. AASHTO M 213.

② PROVIDE A 4' X 4' MINIMUM LANDING. SEE PLANS FOR PROPOSED RUNNING SLOPE AND CROSS SLOPE, NEITHER OF WHICH MAY EXCEED 0.02 FT./FT. AS CONSTRUCTED.

③ PLACE THE DETECTABLE WARNINGS AT THE BACK OF CURB. WHEN THE DETECTABLE WARNING SYSTEM IS A PRECAST MATERIAL, THE CURB SHALL BE HAND FORMED TO FILL THE GAP. DETECTABLE WARNING AREA SHALL BE 2' 0" MIN. IN THE DIRECTION PERPENDICULAR TO THE GRADE BREAK AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP.

④ WHERE RADIAL WARNING SURFACES ARE USED OR IN OTHER CIRCUMSTANCES WHERE THE EDGE OF THE WARNING SURFACE IS NOT PARALLEL TO THE EDGE OF THE CURB RAMP PATH OF TRAVEL, THE EDGE OF THE DETECTABLE WARNING SURFACE SHOULD NEVER BE MORE THAN 3 INCHES FROM THE EDGE OF THE RAMP. DETECTABLE WARNING AREA SHALL CONTRAST VISUALLY WITH THE ADJACENT GUTTER, ROADWAY, OR WALKWAY, EITHER LIGHT ON DARK OR DARK ON LIGHT. CONTRAST MAY BE PROVIDED ON THE FULL RAMP SURFACE, EXCLUDING THE FLARED SIDES.

⑤ CROSS SLOPE OF THE RAMP MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.

⑥ ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE MAY NOT BE GREATER THAN 1/4 INCH.

APPROVED NOT APPROVED STATE DESIGN ENGINEER	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION PEDESTRIAN CURB RAMP PERPENDICULAR DESIGN	SPECIFICATION REFERENCE 2521 2531	STANDARD PLATE NO. 7036G
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Standard Plate 7038A

- Approved on August 23rd, 2010
- Includes both rectangular and radial detectable warning surfaces
- Radial detectable warnings must accommodate existing radius dimensions to nearest 5' increment

RECTANGULAR PLATES

RADIAL PLATES

SECTION A-A
TRUNCATED DOME

TYPICAL RADIAL TRUNCATED DOME PLATES			
RADIUS (FEET)	LONG CHORD WIDTH (INCHES)	SQ. FT. PER PLATE	PLATES REQUIRED FOR 90 DEGREE TURN
10	23-1/2	3.53	8
15	18-13/16	2.93	15
15	23-1/2	3.67	12
20	18-13/16	3.00	20
20	18-7/8	2.98	20
25	20-1/2	3.28	23
25	23-9/16	3.77	20
30	22-5/8	3.65	25
35	22	3.56	30

NOTES:

DETECTABLE WARNING SURFACES SHALL FOLLOW THE PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG).
DETECTABLE WARNINGS CONSIST OF TRUNCATED DOMES ALIGNED IN A SQUARE OR RADIAL GRID PATTERN.

DETECTABLE WARNINGS ARE REQUIRED:
-WHERE RAMP, LANDINGS, OR BLENDED TRANSITIONS PROVIDE A FLUSH PEDESTRIAN CONNECTION TO THE ROADWAY.
-WHERE PEDESTRIAN ACCESS ROUTES CROSS COMMERCIAL DRIVEWAYS THAT ARE PROVIDED WITH TRAFFIC CONTROL DEVICES OR OTHERWISE PERMITTED TO OPERATE LIKE A PUBLIC ROADWAY.
-AT PEDESTRIAN RAILWAY CROSSINGS.
-ON RAIL PLATFORMS WHERE BOARDING EDGES ARE NOT PROTECTED.

DETECTABLE WARNINGS SHALL EXTEND:
-A MINIMUM OF 24" IN THE DIRECTION OF TRAVEL.
-THE FULL WIDTH OF THE RAMP, LANDING, OR BLENDED TRANSITION, WITHIN 3' OF FULL WIDTH ON EITHER END.
-THE FULL LENGTH OF THE PUBLIC USE AREA OF A RAIL PLATFORM.

DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT CUTTER, ROADWAY, OR WALKWAY, EITHER A LIGHT-ON-DARK OR DARK-ON-LIGHT. CONTRAST MAY BE PROVIDED ON THE FULL RAMP SURFACE, EXCLUDING THE FLARED SIDES.

FOR MN/DOT PROJECTS, SEE MN/DOT'S APPROVED/QUALIFIED PRODUCT LISTS.

DETECTABLE WARNING SURFACE SHALL BE PAID FOR AS TRUNCATED DOMES BY THE SQUARE FOOT.

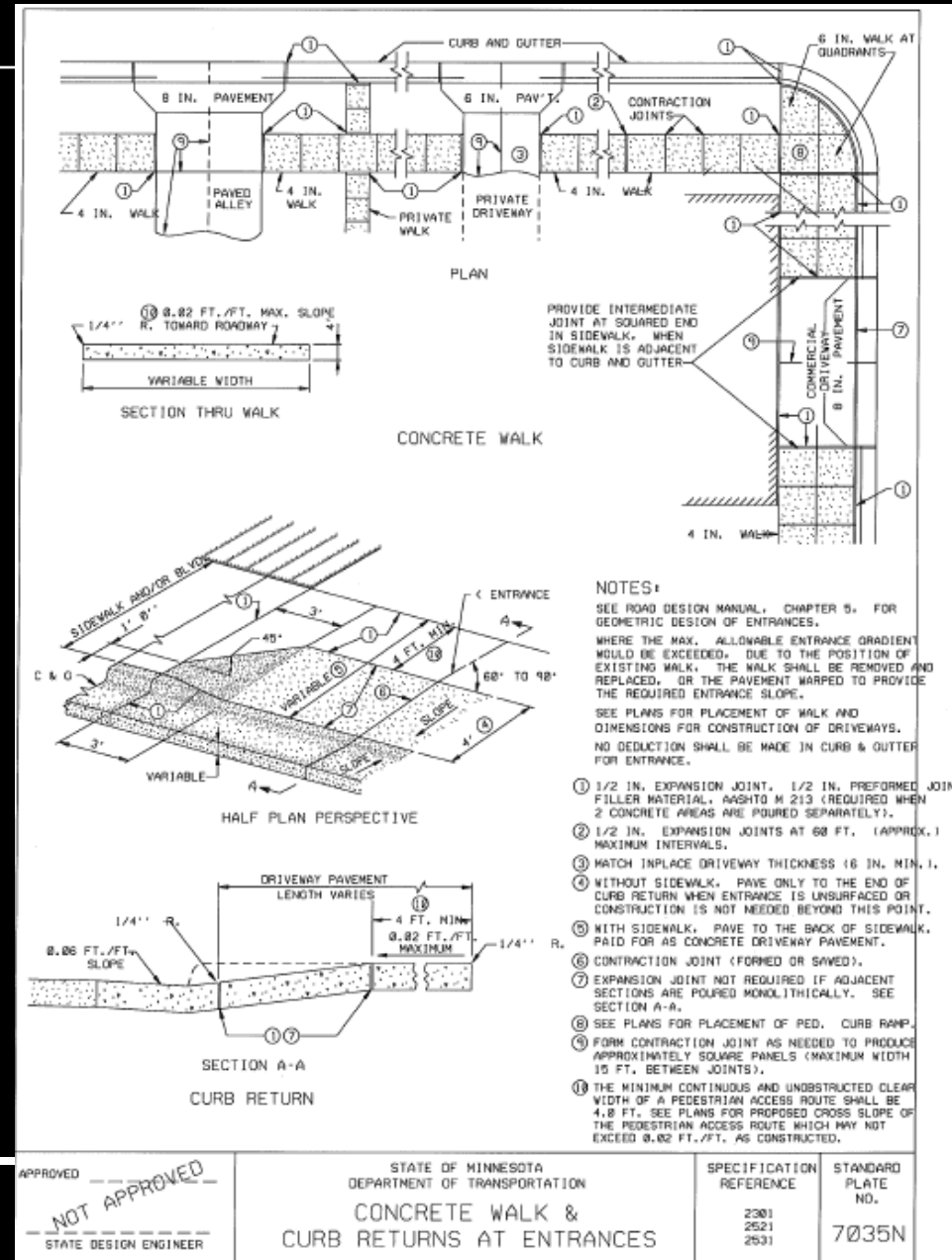
ALL TRUNCATED DOME SYSTEMS SHALL BE PLACED IN STREET ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER, CENTER TO CENTER DOME SPACING: 1.0' MINIMUM, 2.4" MAXIMUM.

- ① BASE TO BASE DOME SPACING: 0.65" MINIMUM.
- ② DOME BASE TO PLATE EDGE SPACING: 0.35" MINIMUM, 0.75" MAXIMUM.
- ③ SPACING VARIES ON RADIAL PLATES.
- ④ TYPICAL WIDTHS AVAILABLE: 12", 18", 24", 30", 36". CHECK WITH MANUFACTURERS FOR AVAILABLE WIDTHS.
- ⑤ ON RADIAL PLATE, RADIUS DEFINED AT BACK OF CURB.
- ⑥ TYPICAL RADIUS, CHECK WITH MANUFACTURERS FOR AVAILABLE RADIUS.

APPROVED AUGUST 23, 2010 STATE DESIGN ENGINEER	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION DETECTABLE WARNING SURFACE TRUNCATED DOMES	SPECIFICATION REFERENCE 2531	STANDARD PLATE NO. 7038A
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Standard Plate 7035N

- Issued in March 2011
- Maintain a 4' minimum Pedestrian Access Route (PAR)
- 2.0% maximum Cross Slope
- 6" Concrete Walk thickness at quadrants




What we're working on

- Informal Internal Training
- Formal Statewide Training this summer
- Statewide Consistency
- Working with ADA Stakeholder Committee
- TPAR – Temporary Pedestrian Access Route
- Project Scoping, Right of Way Issues, Maintenance, Agreements and Partnering
- Standard Plans



Right-of-Way





Right-of-Way

- If time allows and project includes ROW acquisition, ROW should be acquired if needed to improve pedestrian facilities
- Obtain Commissioner's Orders as needed to extend work limits on all side streets
- If possible, obtain permits to construct with individual property owners
- V-Curb can be utilized to hold adjacent ground while staying within existing ROW



Snow & Ice Removal



What we're learning

- PROWAG is difficult to apply in the field, especially in retrofit situations





Automotive
Accessories

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What we're learning

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- Standard designs cannot be applied everywhere
- Scope of project helps determine chance of success





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ONE WAY



What we're learning

- PROWAG is difficult to apply in the field, especially in retrofit situations
- Standard designs cannot be applied everywhere
- Scope of project helps determine chance of success
- Directionality cannot be achieved in every situation
- Need for Contractor training
- In certain situations do the best you can



This elevation must be matched

